

**PROTOCOL FOR THE OPERATION OF THE
CEDAR CHEMICAL COMPANY WASTEWATER TREATMENT PLANT
BETWEEN THE
HAZARDOUS WASTE, WATER, AND TECHNICAL SERVICES DIVISIONS
OF THE
ARKANSAS DEPARTMENT OF ENVIRONMENTAL QUALITY**

PURPOSE & AUTHORITY

Cedar Chemical Corporation (Cedar) was a chemical manufacturer in Helena, Arkansas. The facility operated an onsite wastewater treatment system that included a finishing pond, equalization pond, biological treatment pond, clarifier, and associated water collection and transfer system. The wastewater treatment system discharged through Outfall 002 to the Mississippi River under National Pollutant Discharge Elimination System (NPDES) Permit No. AR0036412. Cedar ceased operations and eventually filed bankruptcy. Through the bankruptcy court, Cedar was abandoned to ADEQ's control and all existing wastewater was left onsite. No chemical processes are currently ongoing at the site. The wastewater treatment system is not in operation and is no longer receiving or treating any process waters. Inflows to the system are only from rainfall events directly into the wastewater treatment ponds and storm water runoff that is discharged into the wastewater treatment ponds. **The purpose of this document is to set forth the conditions under which ADEQ will assume portions of the Cedar NPDES permit requirements to allow ADEQ to discharge from the wastewater treatment system.**

According to a letter sent to ADEQ from EPA dated October 21, 2003, ADEQ has "authority to discharge effluent from Cedar's wastewater treatment system through Outfall 002 to the Mississippi River." Discharges from the system to Outfall 002 will only be allowed by ADEQ when it is necessary to relieve some of the volume of water to prevent an uncontrolled release due to a catastrophic failure or overflow of the walls of the wastewater treatment ponds. ADEQ has therefore determined that discharge from Outfall 002 will occur only when there is less than three feet of freeboard left in the finishing pond or when transfer from other ponds will result in less than three feet of freeboard in the finishing pond.

EPA expects that "ADEQ will sample for the necessary parameters required by Cedar's existing NPDES permit and provide the results of that sampling to EPA as soon as possible." EPA also expects ADEQ to "report in writing to [Vivian Hare] the volume of the discharge, the duration of the time during which the discharge occurred and any observable impacts on the receiving water" within five (5) days of the discharge.

EPA shall be notified by ADEQ within 24 hours of an emergency. An emergency situation is defined as an uncontrolled release from the storm water or wastewater treatment system and shall include catastrophic failure of the walls of the wastewater treatment system.

This Protocol sets forth the coordination of efforts within ADEQ between the Hazardous Waste Division (HWD), the NPDES Branch of the Water Division (WD), and the Technical Services Division (TSD) to operate the Cedar Wastewater Treatment System in compliance with EPA's

October 21, 2003, letter. **HWD, WD, TSD, and Legal Division representatives will meet, at a minimum, on a quarterly basis to discuss the status of the site, problems encountered, selection of remedies, etc.** The quarterly meetings shall be held the first month of each calendar quarter beginning in July 2004. If problems are encountered between quarterly meetings, additional meetings will be scheduled as necessary. The Legal Division and Director's Office will be notified immediately of any conflicts, problems, or emergencies encountered at Cedar by HWD, WD, or TSD representatives or their contractors.

CONTRACTOR DUTIES

ADEQ has secured through contract a part-time Class 1 certified operator to oversee the wastewater treatment system. The operator's duties will include the following which will also be outlined in a separate written contractor protocol:

MONITORING

The operator will monitor water levels in the storm water retention basin and wastewater treatment system on a weekly basis and immediately after any rainfall event(s) totaling one (1) inch or more in a 24 hour period. The operator shall operate existing pumps, valves, pipes, and other equipment as necessary to maximize retention of storm water in the wastewater treatment system and minimize retention of storm water in the storm water retention basin to the extent practical by pumping the storm water to the finishing pond and/or the equalization pond. The storm water retention basin shall be considered empty to the extent practical when the storm water pumps automatic controls shut off, or some other level mutually approved by the HWD and NPDES Branch. In the event any pond in the wastewater treatment system reaches three feet of freeboard, the operator shall operate existing pumps, valves, pipes, and other equipment to transfer the wastewater to another wastewater treatment pond with available capacity. The operator shall only discharge from the finishing pond to the Mississippi River via Outfall 002 once the operator has received verbal authorization from ADEQ per the REPORTING requirements below. Each time the operator is onsite, the operator shall record in the operating log if there is no discharge to Outfall 002 and certify this with the operator's initials.

REPORTING

The operator shall maintain a record of the dates and duration of transfer of water between ponds in the storm water or wastewater treatment system. The operator shall immediately notify Melanie Foster, HWD, by telephone whenever there is less than three feet of freeboard left in the finishing pond, or transfer from other ponds will result in less than three feet of freeboard in the finishing pond, in order to obtain authorization from ADEQ to discharge from the finishing pond via Outfall 002. If Melanie Foster can not be reached for authorization, the operator shall telephone Mo Shafii, NPDES Branch of the Water Division, and/or Dick Cassat, TSD, to obtain authorization. If none of the Division representatives can be reached, the operator shall telephone Ellen Carpenter, Legal Division Chief, to obtain authorization. The same telephone

authorization/notification protocol shall be used by the operator if any problems or emergencies are encountered.

After obtaining authorization from ADEQ for discharge, the operator shall sample the effluent in accordance with the SAMPLING REQUIREMENTS below. The discharge shall continue until at least six feet of freeboard is obtained but in no case shall the pond be pumped dry. The duration (dates and times) and volume of the discharge shall be recorded in a log book (and transmitted to Melanie Foster along with any observable impacts on the receiving water).

Flow will be recorded in a log book in millions of gallons per day (MGD) every time a discharge occurs. The flow meter will be calibrated once per year and checked monthly (or upon the next discharge if discharge is less frequent than monthly) according to the manufacturer's specifications. Calibration results will also be recorded in the log book (and transmitted to Melanie Foster).

At least on a weekly basis, the operator shall transmit reports of his activities, along with any observations of freeboard levels; hours worked; copies of log book entries; duration and volume of discharges; flow and flow meter calibration; pH and pH meter calibration; comments of any observable impacts on receiving water; and monitoring results to Melanie Foster. These weekly reports will be distributed by Melanie Foster to Mo Shafii and Dick Cassat.

SAMPLING

Because discharge is intermittent and primarily constitutes storm water, sampling for the following parameters will occur at Outfall 002 each time a discharge occurs from the wastewater treatment system:

- A 24-hour composite sample and duplicate sample will be collected for Biochemical Oxygen Demand (BOD₅), Total Organic Carbon (TOC) (as a surrogate for Chemical Oxygen Demand (COD)), and Total Suspended Solids (TSS) each time there is a discharge but no more frequently than once per week. A 24-hour composite sample is defined as four grab samples during a 24-hour period. If the duration of the discharge is less than 24 hours, the sample will be collected for the entire duration of the discharge but in no case will exceed 24 hours. The actual time period of the discharge and sampling event will be noted on the sampling log and chain-of-custody. (Note: Time composite samples are being collected in lieu of flow-proportional samples because the pump rate during discharge will remain constant.) The sample will be collected according to EPA Methods 405.1, 410.1, and 160.2 (Standard Methods 5210.b and 2540.d). Samples will be collected in 2L plastic "milk" jugs that have been rinsed with effluent water. The sample container will be placed on ice and transported within 24 hours of the end of the sampling event to Dick Cassat, TSD, for analysis.

- A grab sample for pH will be collected each time there is a discharge. The grab sample will be analyzed onsite utilizing a calibrated pH meter. The pH meter shall be calibrated before each sampling event and the calibration records kept in a log book alongside the pH results for the sampling event.
- On the first discharge of the calendar quarter, two 24-hour composite samples will be collected for acute biomonitoring for *Daphnia pulex* and *Pimephales promelas*. The samples will be collected in accordance with EPA's "Short-Term Methods for Estimating the Chronic Toxicity of Effluents and Receiving Water to Freshwater Organisms." The samples will be collected in four, half-gallon plastic "milk" jugs which will be rinsed with effluent water prior to sample collection. The containers will be preserved on ice and transported to a certified laboratory within 12 hours of sample collection.

No other samples, including samples for Priority Pollutants, will be collected unless results of the sampling indicate further sampling is required. Because the storm water system flows into the wastewater treatment system, no samples will be collected separately from the storm water system provided that no uncontrolled releases occur.

AGENCY COORDINATION

Upon notification by the onsite operator that a discharge is necessary from the wastewater treatment system, Melanie Foster shall give verbal authorization to the onsite operator to begin discharge and sampling activities. The verbal authorization will be followed with an electronic authorization to the onsite operator, Mo Shafii, and Dick Cassat. This electronic correspondence shall serve as notice to the NPDES Branch and TSD that samples are being collected. In the event that Mo Shafii, Dick Cassat, or Ellen Carpenter gives authorization for discharge to the onsite operator due to the unavailability of the HWD, the authorizing party shall notify the others through electronic communication. Samples shall be collected as outlined in SAMPLING REQUIREMENTS above. If the discharge is not immediately necessary, efforts will be made to schedule the discharge on a Monday or Tuesday to allow ample time for analysis by TSD.

When the discharge is complete, the operator shall send written notice (via email or fax) to Melanie Foster of the duration of time and volume of the discharge along with any observable impacts on the receiving water. This notice will be forwarded immediately to Mo Shafii, Dick Cassat, and Vivian Hare, EPA.

Within 24 hours of the conclusion of sampling by the operator, BOD, TOC (as a surrogate for COD), and TSS samples will be transported by a TSD representative to the ADEQ Laboratory for analysis. If a representative from TSD can not be present to transport the samples, the samples will be shipped via FedEx to ADEQ. Once the analyses are complete, Dick Cassat will forward the results to Melanie Foster and Mo Shafii. Results of the pH monitoring conducted by the operator will be forwarded to Melanie Foster and subsequently forwarded to Dick Cassat and Mo Shafii. Within 12 hours of the conclusion of acute biomonitoring sampling by the operator, the samples will be transported by a TSD representative to a certified laboratory for analysis. If a representative from TSD can not be present to transport the samples, the samples will be

shipped via FedEx to the certified laboratory. The certified laboratory will forward the results of the analyses to Dick Cassat who will forward this information to Melanie Foster and Mo Shafii.

Dick Cassat will complete a Sampling Report after receiving all of the results of each discharge sampling event. Dick Cassat will submit the Sampling Report to Mo Shafii, Melanie Foster, and Vivian Hare, EPA. Mo Shafii will review the Sampling Report and compare the results of the effluent sampling to NPDES Permit No. AR0036412. Mo Shafii will immediately notify Melanie Foster and Dick Cassat if any permit limits have been exceeded. If permit limits are exceeded for any parameter sampled for in any sampling event, the HWD, TSD, and NPDES Branch will coordinate additional sampling as necessary to determine the source of the problem and determine a remedy before discharge from the ponds is required again.

This Protocol has been agreed to by the Hazardous Waste, Water, and Technical Services Divisions as noted by their signatures below. Nothing in this Protocol precludes additional meetings from occurring if the need arises for further coordination in ADEQ's efforts to manage the Cedar site in an environmentally responsible manner.

Mike Bates
Mike Bates, Hazardous Waste Division Chief

7/13/04
Date

Martin Maner
Martin Maner, Water Division Chief

7-16-04
Date

Dick Cassat
Dick Cassat, Technical Services Division Chief

7-16-04
Date